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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,801	08/01/2003	Keimpe Jan Van Den Berg	116774	2002
25944	7590	02/09/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			MCCLENDON, SANZA L	
			ART UNIT	PAPER NUMBER

1711

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/631,801

Applicant(s)

VAN DEN BERG ET AL.

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19 and 21-23 is/are rejected.
- 7) ☐ Claim(s) 18 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

2. The information disclosure statement (IDS) submitted on January 5, 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by Rayner et al (EP 0 936 249).

Rayner et al teaches water-based thermoforming adhesives. Said adhesive compositions comprise a combination of an anionic sulfonated polyester urethane, an anionic carboxylated polyester urethane, an acrylate-styrene dispersion, optionally an acrylate-styrene-acrylonitrile dispersion, a blend of hydrophobic and hydrophilic solvents, and a thickener, wherein it is taught that the solvent is preferably only water, but other organic solvents can be added in amounts not exceeding preferably 5% of the total formulation. This appears to anticipate claim 23.

*Claim Rejections - 35 USC § 102/ 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-7, 11, 13-17 and 21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Boba et al (4,361,626).

Boba et al teaches methods of improving the bonding between dissimilar polymeric materials, such as vinyl resins and polyurethanes or acrylated polyurethanes, wherein the vinyl resin in combination with a material possessing functional groups having active hydrogen atoms and providing free isocyanate groups in the polyurethane. Said functional groups comprising reactive hydrogen atoms can be selected from mercapto groups. Boba et al teaches that there is sufficient chemical inter-reaction between the resin materials as to create a strong permanent primary chemical bond. This appears to anticipate claims 1, 3, and 5-7. Said mercaptan compound can be found in column 4. Per example 1, Boba et al teaches adding two different vinyl resins in the wear layer coating composition. This appears to anticipate claim 4. In addition example 1 teaches that the urethane acrylate composition comprises a latent photocatalyst and a reactive diluent, wherein the examiner deems that the reactive diluent reads on the solvent of claims 17. The photoinitiator anticipates claims 13-14. Useful other photoinitiators taught by Boba et al can be found in column 6 and includes thioxanthone, wherein the examiner deems all the listed are equivalent; therefore it would have been obvious to use thioxanthone and expect a reasonable cure time as implied by Boba et al. Thus claim 15 appears to be read in the reference, wherein the examiner deems that one of ordinary skill in the art would have known to control all reactive groups for polymerization to tailor the properties wanted/needed in the final product. Because Boba et al does not teach adding any types of catalyst to the vinyl resin composition thus claim 16 is anticipated by the reference.

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7. Claims 1-2, 5-12, 16-17, 19 and 21-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Delany et al (4,619,746).

Delany et al teaches processes for top-coating electro-coated metal substrates using wet-on-wet methods proving for improved visual appearance and exhibits improved film durability of the finished products. Said process involves 1) electrophoretically applying a basecoat on a substrate; wherein said base coat comprises an aqueous dispersion of a binder resin comprising active hydrogen atoms; which appears to read on claim 19, a crosslinking agent and additives, 2) drying the substrate to evaporate residual water and volatile materials, 3) non-electrophoretically applying a top coating comprising a low molecular weight active hydrogen material, a blocked isocyanates, cure catalyst, and other additives, 4) and curing the coated substrate. Said active hydrogen material in the base coat can be resinous polyols, polyamines, epoxy resins, polyurethanes, and the like with hydrogen containing functional groups, such as hydroxyl, amine, and mercaptan functional groups. The same resins and functional groups can be used in the top-coat, in addition, to those listed in column 3, lines 10-12, wherein the teaching of a resin in combination with the blocked isocyanate appears to read on claim 8. This appears to read on claim 10, when mercaptan groups are selected as the active hydrogen functionality in the base coat. Per examples it appears that other resins can be added as additives to control properties, such as the addition of the acrylic polymer, Microgel, used for sag control. This appears to read on the second resin in claim 9. Said cure catalyst in the topcoat can be a compound such as tin octoate and dibutyltin dilaurate. This appears to read on claims 11-12. Said top-coatings can be clear or pigmented—see column 3, lines 23. Thus the examiner deems that claim 21 is read in the reference. Per the examples it appears the top-coating compositions are solvent borne compositions, which appears to read on claim 17. While Delany does not explicitly teach using resins having and/or in combination with an effective amount of thiol groups it is taught by Delany et al in such a way that an artisan of ordinary skill in the art could have prepared/used such the binder having active hydrogen functional groups from the teachings of materials cited for use in the base coating composition, thusly the examiner deems claims 1-2 and 7 are read in the reference. The lack of teaching a curing agent in the base coat appears to read on claim 16. The blocked isocyanate groups in the top-coating composition appear to read on claims 5-6. While Delany et al does not expressly teach finishing or refinishing automobile or large transportation substrates, Delany et al teaches said multi-layer coating systems can be used to coat metal substrates in a wet-on-wet application with a single curing step. Therefore the examiner deems that the coatings taught by Delany et al are taught such that an artisan of ordinary skill in the art would have had a reasonable expectation of successfully coating a metal surface, such as an automobile part or section, to obtain a

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good aesthetic appearance, as well as, a protected surface in the absence of unexpected results and/or convincing arguments to the contrary—see column 1, lines 15-20.

8. Claims 1, 3, 5-7, 9, 11-14, 16-17 and 19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ichikawa et al (4,906,498).

Ichikawa et al teaches an isotropic laminate comprising (A) at least one thermoplastic synthetic resin film layer and (B) at least one crosslinked resin layer. The resin film (A) comprises a polymer having active hydrogen atoms and should have at least 50-mol% of acrylonitrile, vinyl alcohol, or a halogenated vinylidene. This appears to anticipate resin layer b) of claim 1 and at least some of the thiol reactive groups of claim 5-7. The crosslinked resin (B) is formed by crosslinking a resin with a crosslinked agent (polyfunctional compound) reactive to hydrogen atom. Said crosslinkable resin can be found in column 2, lines 25-27, wherein phenoxy, acrylic, and urethane resins are disclosed. Said crosslinking agent is a compound that has two or more active groups reactive to hydrogen atoms, such as mercapto groups. Said laminate is formed by casting the crosslinked resin (B) on the resin film (A) and curing by heat or actinic radiation, which results in the simultaneous formation of the crosslinked resin layer and intimate adhesion between (A) and (B). Per the examples (A) is cast from a water-borne composition and (B) is cast from a solvent-borne composition, which appears to read on claims 17 and 19.

While Ichikawa et al does not expressly exemplify selecting thiol groups as the active hydrogen component used to prepare (B), it is disclosed as a active hydrogen useful in the preparation of the laminate, in the alternative, it is also taught in such a way that an artisan of ordinary skill in the art would have had a reasonable expectation of successfully obtaining a laminate having intimate inter-adhesion between layers using thiol groups as the active hydrogen as found in the teachings of the reference in the absence of unexpected results and/or convincing arguments to the contrary. Therefore it is deemed that claims 1 and 3 are read in the reference. Per example 1, Ichikawa teaches adding a methoxylated melamine resin in the casting composition for (A). This appears to read on claim 9.

With respect to claims 11-14, while it is noted Ichikawa et al does not expressly teach adding catalyst to either of the compositions, however it is taught that curing can take place by heat or actinic radiation. The examiner deems that it would have been obvious to an artisan of ordinary skill level in the art to add a catalyst especially since the curing methods taught are known to be used in combination with compounds that supply active molecules for initiating polymerization of polymerizable components. The motivation would have been a reasonable expectation of a faster curing time in the absence of unexpected results and/or convincing arguments to the contrary.

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*Allowable Subject Matter*

9. Claims 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the compositions of these claims are not found to be used in multi-layered laminate systems as defined in claim 1.

*Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,541,116 teaches base coat/top coat formulations having inter-adhesion from active hydrogen and active hydrogen-reactive compounds, such as mercaptans and isocyanates.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sanza L McClendon

Examiner

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